## REMARKS

### Status of the Claims

In the Advisory Action dated July 13, 2005, the Examiner did not enter the amended claims submitted in Applicants' amendment dated June 24, 2005. Claims 1-33 of the above listing of claims are the same as those set forth in the amendment dated June 24, 2005.

In the final office action dated May 4, 2005, claims 10-21, 23-29 and 31-33 were rejected. In this response, Claim 10 was amended; claims 16, 17 and 33 were canceled.

### Objection to the Specification

In the final office action of May 4, guidelines were provided for the arrangement of the specification. In a previous amendment of January 13, 2005, a copy of the revised specification was attached that followed the guidelines to obviate this objection. A copy again has been attached again for the Examiner's convenience.

### Rejection under 35 U.S.C. 103

In the final office action of May 4, Claims 10-21, 23-29 and 31-33 were rejected as being unpatentable over Fujisawa et al. U.S. 4,960,611 and Sukejima et al. U.S. 5,852,067. Since the amendment applicants submitted dated June 24 was not entered by the Examiner, the arguments in response the final office action will be repeated. The Examiner in the final office action stated that the same reasons were used for rejection as in the office action of November 22, 2004.

The primary concern raised by the Examiner in the in the final office action rejection is that "powder coating composition" can include "aqueous powder coating slurries" as described in the specification p. 6, lines 11-15. Applicants do not intend to have the claims cover these aqueous powder coating slurries and have amended the claims to "pulverulent powder coatings" and specifically disclaim the use of aqueous slurries. If the Examiner can provide a better descriptive term to describe powder coatings to the exclusion of slurries, Applicants would be very receptive to such a suggestion. To one skilled in the art the term as now described would denote only powder coatings in the powder form and not slurries or any other liquid coating.

According to Webster's Collegiate Dictionary, "pulverulent" means "consisting of ····fine powder". The powder coating as claimed has a mean particle size of 1 to 90 µm, which would be a finely divided powder.

The Examiner is relying on the rejection of the November 22, 2004 office action. For completeness of this response, Applicants will include the arguments previously submitted and additional arguments in overcoming the obviousness rejection based on the combination of Fujisawa and Sukejima.

In the November 22, 2004 office action, the claims were rejected under 35 U.S.C. 103(a) as being unpatentable over Fujisawa et al. U.S. Patent 4,490,611 in view of Sukejima et al. U.S. Patent 5,852,067. The basis for the Examiner's rejection is that Fujisawa teaches a method of repairing a defect on a multi-layer automotive paint coating using infrared radiation to melt and cure the repair coating in which the repair coating may be a solid (e.g., powdery) or semi-solid composition and Fujisawa teaches "infrared range" of 700nm – 1mm which overlaps Applicants' NIR range and therefore, the subject matter as a whole would have been obvious to one of ordinary skill in the art.

Applicants respectfully assert that in view of the amended claims wherein the powder coating composition has been clearly defined as a pulverulent powder coating, the amended claims do not include powder coating slurries or any other type of liquid coating composition but only powders. Applicants' novel process is unobvious in view of the cited references Fujisawa and Sukejima and that the claims as amended are patentable and the application is allowable.

Applicants' invention is directed to a process that uses a powder coating composition as a repair coating material to repair defects multilayer coating compositions using NIR radiation which provides for fast curing of the powder repair coating using only a short irradiation time. This process avoids the disadvantages as shown on page 1, paragraph 2, of the specification, for example, the use of high temperatures for curing the powder repair coating damages temperature sensitive substrates, like, plastics, and temperature sensitive components attached to the coated areas. The novel process, for example, avoids the removal of temperature sensitive components subsequent heating of the repair area and reinstallation of the temperature sensitive components after curing of the repair finish.

Applicants claims are directed to using a powder coating composition to repair the defects in the coating composition wherein the powder coating composition has a mean particle size range of 1 to about 90 μm and comprises a heat-curable binder that is either self-crosslinked or externally crosslinked. In contrast, Fujisawa does not use or suggest the use of such a powder to repair a coating. The Examiner states that Fujisawa uses a "powdery" composition and points to the disclosure on col. 3, lines 3-4 and 62-63. Further reading in Fujisawa, col. 7, lines 14-33, shows that this "powdery" coating is a pelletized repair coating prepared by compression molding of a powder or thermally meltable coating composition. This certainly is not the powder coating as set forth in the amended claims. Applicants' invention is directed to the use of pulverulent powder coatings of finely divided powder particles and not to pellets. To draw an analogy, Fujisawa discloses the use of boulders while Applicants use sand in their process. In the description set forth in col. 7, lines 23-25, Fujisawa's process operates by heating the compressed molded particles with a laser beam and allowing the composition to flow into the cavity that is being repaired (see Fig 4(c) and Fig. 4(d) of Fujisawa). In contrast, Applicants use a powder coating that has a very small particle size, not disclosed or suggested by Fujisawa, wherein the particles flow into any area that is being repaired and then are heated with NIR radiation to crosslink and resulting in a repair of the finish.

The Examiner combined the teachings of Sukejima with Fujisawa to show that a powder coating having the particle size of Applicants' powder coating would be selected by one skilled in the art. However, the Examiner's position is totally incorrect. Sukejima uses a "putty" to repair a damaged finish and **NOT** a powder coating. Applicants have amended the claims so that the claims are clearly directed to pulverulent powder coatings, which are powder coating having a fine particle size and clearly are not a putty. The Examiner points to the paragraph on col. 13, lines 43-54, of Sukejima for the example of particle size of the powder that can be used. A close reading of the paragraph shows that polymers having the particle size of 30 μm or less can be used to form the putty used in Sukejima's repair process but does <u>not</u> teach that powder coatings having this particle size can be used as a repair coating. Further reading of the next paragraph of Sukejima, col. 13, lines 54-64, points out that the use of more than 100 parts of resin (meaning polymer powder) with compound (B), which is a polymerizable unsaturated compound disclosed on col. 3, lines 18 and following,

causes an increase in the viscosity of the putty resulting in reduced workability. It very clear that Sukejima forms a putty for repairing coating compositions and does not use a powder as alleged by the Examiner. Obviously, if the putty was a powder coating, which it is not, there would be no increase in viscosity. In the rejection, the Examiner has taken the teachings of Sukejima completely out of context. Powder coatings of the small particle size used in Applicants' novel process are simply not taught by Sukejima.

In step (b) of Applicants' process, the NIR wave length, the NIR density and the irradiation time have been clearly set forth in the amended claims. Fujisawa does not teach the use of NIR radiation but prefers to use a laser beam to cure the composition. Infra red and far infrared curing is disclosed but not NIR radiation curing nor is the wave length, density or time taught which are important parameters of Applicants' process. Applicants' primary objective in using NIR is to provide sufficient radiation to rapidly cure the powder coating composition without any excessive heating of the substrate, which may cause distortion, for example, of a low melting plastic substrate, or, for example, if the part being refinished was adjacent to a heat distortable material or a material that would be destroyed by excessive heat. The amended claims set forth NIR exposure conditions that are not taught or suggested by either Fujisawa or Sukejima. Sukejima does state that NIR can be used but does not provide any indication of density of radiation to be used or the time of radiation. Further, to make his repair putty operative, Sukejima requires the presence of infra red ray absorbing cationic dye (see Sukejima, col. 4, lines 37-46) that Applicants do not use in their powder coating composition.

To further avoid Fujisawa, applicants have amended the claims to more clearly define the near infrared radiation device use by specifying the radiator surface temperature in the range of 2000 to 30000 K which clearly is not taught or suggested by Fujisawa or Sukejima. Applicants' invention is directed to the use of near infra red radiation and not to IR radiation, which would cause excessive heating of substrates and generally have insufficient near infra red radiation present for rapid and complete curing to form a finish of the powder coating.

In the office action of November 22, 2004 the claims were rejected as being obvious in view of Fujisawa. Each of these claims is either directly or indirectly dependent on claim 10 and contains the patentable components of claim 10. The

above points made in regard to the main claim 10 as amended also apply to these claims. Claims 16 and 17 directed to aqueous slurries of powder coating compositions have been canceled. As pointed out above, the claims of applicant's invention are directed to powder coatings and not to slurries or other types of liquid compositions. Further, Fujisawa does not teach that the binder of the powder coating used is an epoxy functional acrylic and a compound having at least two carboxyl functional groups as set forth in claim 19 or the compositions of claims 24 and 26 or the optimum ingredients of claims 25 and 27. Claim 32 is not taught by Fujisawa, col. 6, line 30 since NIR radiation is not taught and there is no teaching or suggestion that the various heating methods set forth could be used in combination.

**SUMMARY**

In view of the foregoing amendments and remarks, Applicants submit that this application is in condition for allowance. In order to expedite disposition of this case, the Examiner is invited to contact Applicants' representative at the telephone number below to resolve any remaining issues. Should there be a fee due which is not accounted for, please charge such fee to Deposit Account No. 04-1928 (E.I. du Pont de Nemours and Company).

Respectfully submitted,

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